

REMARKS

This paper is responsive to a final Office action dated January 22, 2009. Claims 102, 104-126, 154, 158-165, 167-169, and 171-175 were examined and rejected. Rejections are traversed and new claims 176-185 are added. No new matter is added. Reconsideration and further examination are respectfully requested.

Claim Objections

Claims 102 and 169 have been objected to because of informalities. Claims 102 and 169 have each been appropriately corrected. Additional informalities have been corrected in claims 161 and 162. Finally, claim 126 has been amended to reinstate proper language that was deleted (apparently inadvertently) in a prior response.

Claim Rejections under 35 U.S.C. § 102

Claims 102, 104-109, 113-114, 117, 119-126, 154, 158-162, 164-165, 169, and 171-175 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Patent No. 5,215,558 to Moon (hereinafter “*Moon*”). With respect, the Office’s rejection, while short and to the point, simply misapprehends the actual disclosure of *Moon*. Applicant respectfully **traverses**.

The Office interprets three features illustrated and described in *Moon* with reference to Fig. 1 as corresponding to Applicant’s claim language. In particular, the Office suggests that:

- ionizing electrodes 1 correspond to claim term “first electrode”,
- opposing dust collecting electrodes 2 correspond to claim term “second electrode”, and
- accelerating electrodes 3 correspond to claim term “trailing electrode located at least partially downstream from the second electrode.”

While the Office’s characterization of ionizing electrodes 1 and opposing dust collecting electrodes 2 is not unreasonable, characterization of an accelerating electrode 3 as a “trailing electrode” is unsupportable given specific limitations in Applicant’s claim language.

Referring to independent **claim 102**, Applicant specifically recites that “the trailing electrode operat[es] at the *same polarity* as the second electrode and [is] configured to cause a generation of ions.” Referring to independent **claim 154**, Applicant specifically recites that “the trailing electrode [is] configured to cause a generation of ions” and that “the second electrode

assembly and the trailing electrode are charged at a *same potential*.” Referring to independent **claim 169**, Applicant specifically recites that “the trailing electrode has the *same polarity* as the second electrode and is operable to cause a generation of ions.” Referring to independent **claim 171**, Applicant specifically recites that “the second electrode assembly and the trailing electrode are charged at a *substantially identical potential*.”

Although each of the aforementioned claims is of differing scope, even a cursory review of Moon’s Fig. 1 indicates that *Moon’s* dust collecting electrodes 2 and accelerating electrodes 3 are coupled to different supply voltages. Accordingly, dust collecting electrodes 2 and accelerating electrodes 3 simply cannot be said to be at the *same potential* or at *substantially identical potential*. Likewise, there is no basis for the Office to assert *Moon’s* dust collecting electrodes 2 and accelerating electrodes 3 operate at, or have, the *same polarity*. Indeed, since *Moon’s* dust collecting electrodes 2 and accelerating electrodes 3 are coupled to opposing positive and negative supply terminals and (since no ground reference is taught), it is not really plausible for the Office to assert that “polarity of the second and accelerating electrodes appears to be the same.”

Turning to the “ion generating” limitations appearing in each of the above-listed independent claims (i.e., claims 102, 154, 169 and 171) relative to respective recitations of a trailing electrode, the Office boldly suggests that sharp teeth 23 of accelerating unit 22 of *Moon’s* Fig. 3 indicate that the accelerating electrodes 3 (in Fig. 1) act as an ionizing unit and therefore “meet the requirements of [Applicant’s] claimed trailing electrode.” *Really?* Applicant notes that Figs. 1 and 3 are of *two entirely unrelated prior art configurations* inventoried by *Moon* and respectfully requests that the Office “re-evaluate” its errant premise that teeth of accelerating unit 22 teach anything whatsoever about accelerating electrodes 3. Indeed, other than the accidental similarity of verbiage, the role of accelerating unit 22 in the entirely unrelated prior art configuration of Fig. 3 is, if anything, most akin to that of ionizing electrodes 1. In any case, no disclosure in *Moon* suggests that accelerating electrodes 3 (in Fig. 1) are configured to emit ions at all, let alone opposing ions such as recited in at least some of Applicant’s claims.

For at least the foregoing reasons, Applicant requests that rejections of each of the independent claims be withdrawn. Dependent claims are allowable for at least the foregoing

reasons, as well. Accordingly, Applicant respectfully requests a notice of allowance with respect to all pending claims.

However, for completeness Applicant must note that no case of anticipation or obviousness has even been alleged by the Office with respect to the dependent claims 104-108, 113-114, 117, 119-126, 158-162, 164-165, and 172-175. No attempt has been made by the Office to address even a single limitation in even a single one of the aforementioned dependent claims. Since no basis for rejection appears in the record, allowance is respectfully requested for this reason as well.

Claim Rejections under 35 U.S.C. § 103

Claims 109-112, 116, 118, 163, and 168 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Moon* as applied in the § 102 rejection of claims (traversed above). For at least the reasons articulated above, the Office's § 103 rejections are unsustainable with respect to dependent claims 109-112, 116, 118, 163, and 168.

However, in addition, and for completeness Applicant notes that the Office (i) fails to even make out a *prima facie* case with respect to any particular trailing electrode or second electrode configuration or design feature recited in the claims and (ii) further fails to provide any sufficient evidentiary basis for its legal conclusion of obviousness. To be clear, the rejected claims include structural details relative to a pointed portion of a trailing electrode (claim 109, 167, 168) a removable coupling of the second electrode (claims 110, 111, 112, 163), an elongated fin configuration of the second electrode (claim 116) and positional relation (claim 117) with respect thereto.

With respect, even *KSR* requires that the Office identify the specific features known in the art that it seeks to combine with other art of record and then, to articulate a proper evidentiary basis for the legal conclusion that a person of ordinary skill would, at the time the invention was made, combine such known features in the way claimed. Here the Office:

- acknowledges that *Moon* does not teach shapes claimed for Applicant's trailing electrodes, but
- states, without any proper factual basis, that whatever shapes or configurations applicant happens to recite in the claims, they would follow from desires to

“improve[] gas flow patterns and properties with efficient corona current densities and high potential field, while preventing particle erosion of the electrode surface.”

With respect, the Office (1) doesn't even bother to identify a specific feature known in the art, (2) simply pulls its listing of “desired results” out of thin air and (3) never establishes why a person of skill would select any particular feature to incorporate in a design such as that disclosed by *Moon* to achieve any of its hypothesized listing of desired results. Such hand waving does not comport even with KSR and the § 103 rejections are unsustainable for this reason as well.

Conclusion

In summary, claims 102, 104-126, 154, 158-165, 167-169, and 171-185 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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/David W. O'Brien/

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21-Jul-09

Date

EXPRESS MAIL LABEL: _____

Respectfully submitted,

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